Usability Plan – Behavioral Health Services GUI

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The Indian Health Service (IHS) contracted with Human Factors International (HFI) to assess the usability of its current Behavioral Health System, BHS v3 GUI, and to design a user interface structure (UIS) for its new BHS GUI. Health providers, the users of these systems, are pressed for time as they work to meet the needs of their clients. They are reluctant to struggle with a challenging computer interface, especially if health providers are encouraged to enter their observations and recommendations into the BHS GUI. The best way to solve this problem is to follow a user-centered methodology to understand the needs of the users, understand the tasks they must complete, and design a user interface that they can quickly and easily use.

This document outlines a customized user-centric approach to evaluating the current BHS GUI application and to designing a new user interface structure for the replacement to the current BHS application. This approach relies on regular interaction with users to understand their characteristics, the tasks they perform, the information they use, the environments they work in, and the technologies they use. The following eight steps provide detail on our usability plan for this project.

Step 1 – Kickoff Meeting

- **Activities** – Meet with project team to establish communication, line up resources, and answer questions.
- **Deliverables –** BHS GUI Usability Plan (this document)
- **IHS Role –** Attend meeting
- **Time Frame –** January 16, 2003
  Deliver Usability Plan January 23, 2003

Step 2 – Data Gathering with Users

- **Activities** – Interview users in their work environment. Record user characteristics, environment characteristics, tasks, information items, and technologies used. Synthesize findings to create a summary of user types, common tasks, typical scenarios, and information organization.
- **Deliverables** – Data gathering results
- **IHS Role** – Schedule interviews with users. These users should be representative of the diversity of users in the diverse environments in which they work doing the range of tasks that are commonly completed.
- **Time Frame** – March 11 – 14, 2003, in Phoenix, AZ
  March 25-26, 2003 in San Francisco, CA.
- April 7, 2003 deliver Data Gathering Results

Step 3 – Analyze Existing GUI Applications

- **Activities** – Evaluate existing applications for conformance with established principles of human factors engineering and user interface design..
- **Deliverables** – Usability Review of Patient Chart GUI and BHS v3 GUI
- **IHS Role** – Provide remote, secure access to Patient Care GUI and BHS v3 GUI
- **Time Frame** – March 4, 2003; March 17 – 24, 2003
  April 7, 2003 deliver Usability Review

Step 4 – Develop User Interface Structure

- **Activities** – Using the information obtained during the Data Gathering effort, HFI will design a User Interface Structure for the BHS application. This structure will represent and encompass the major BHS functionality in a manner that facilitates understanding and usability. It will be represented first in a 'wireframe' format, and subsequently in a graphical representation. Neither of these will be a coded application. The design will be discussed with Project Management Team as necessary.
- **Deliverables** – User Interface Structure (UIS) for BHS GUI - preliminary
- **IHS Role** – Answer questions and discuss design elements, as necessary.
- **Time Frame** – April 1 – 21, 2003
  April 21, 2003 deliver UIS - preliminary

Step 5 – Usability Testing of UIS

- **Activities** – Verify that the User Interface Structure actually meets the objectives by simulated testing of the interface using actual system users. HFI will develop test materials, conduct tests with participants, analyze data, and prepare results.
- **Deliverables** – Insights of Usability Testing (informal deliverable)
- **IHS Role** – Identify and schedule participants. Identify and schedule test facility. Pay for test facility.
- **Time Frame** – April 21 – May 12, 2003
  May 12, 2003 deliver Insights of Usability Testing

Step 6 – Finalize UIS and Develop Style Sheets and Templates

- **Activities** - Refine and finalize the UIS based on the results of usability testing. Convert UIS into style sheets and templates.
- **Deliverables** – Behavioral Health GUI Style Sheets
- **IHS Role** - Answer questions and discuss design elements, as necessary.
- **Time Frame** – May 12 – May 26, 2003
  Deliver Behavioral Health GUI Style Sheets May26, 2003

Step 7 – Standards Course

- **Activities** – Develop standards course for GUI-based health system. Deliver standards course.
- **Deliverables** – Standards Course.
- **IHS Role** – Attend Standards Course. Course should also be attended by developers and analysts.
- **Time Frame** – May 2 – June 9, 2003
  Deliver and teach Standards Course Week of June 9, 2003

Step 8 – Final Presentation

- **Activities** – Prepare Final Presentation for Project Team.
- **Deliverables** – Final Presentation in PowerPoint
- **IHS Role** – Attend Final Presentation
- **Time Frame** – week of June 9, 2003

Table 1: Outline of Usability Plan for Behavioral Health

Activities	Deliverables	Resources
1. Kickoff Meeting	BHS GUI Usability Plan	Project Team Members
2. Data Gathering w/ Users	Data Gathering Results	On-site interviews with users
3. Analyze Existing GUI Applications	Usability Review of BHS GUI	Access to application
4. Develop User Interface Structure (UIS)	UIS for BHS GUI – preliminary	
5. Usability Testing of UIS	Insights of usability testing (informal)	Users, test facility
6. Finalize UIS and Develop Style Sheets & Templates	Behavioral Health GUI Style Sheets	
7. Standards Course	Training course and materials (informal)	Project Team Members
8. Final Presentation	Final Presentation (informal)	Project Team Members

This plan assumes that the required resources in terms of access to software and personnel will be available as needed. On all of the data gathering and testing visits HFI requests and encourages the participation of members of the Project Team.

HFI welcomes the opportunity of working with IHS. We hope to create an interface that is so compelling that BHS personnel will want to use it to facilitate and streamline their data entry tasks.

Your questions and comments about this Usability Plan are welcome. Please direct them to either Hal Miller-Jacobs or John Smelcer at the phone number below.